IN THE CLAIMS:

1. (Currently Amended) A retroviral vector for carrying a target gene specific insert into a cell in order to modify the expression of a target gene having a sense strand and an antisense strand, comprising:

(a) ~~a promoter selected from the group consisting of~~

~~(i)~~ a U6 promoter sequence of:

ttcccatgattccttcatatttgcatatacgatacaaggctgttagagagataattagaattaatttgactgtaaacacaaagatattagta caaaatacgtgacgtagaaagtaataatttcttgggtagtttgcagtttttaaaattatgtttaaaatggactatcatatgcttaccgtaac ttgaaagtatttcgatttcttgcctttatatatcttgtggaaaggacgaaacaccg (SEQ ID NO:7)~~; and~~

~~(ii) an H1 promoter (SEQ ID NO:14)~~;

(b) a polylinker region;

(c) a target gene specific insert comprising double stranded RNA, wherein said double stranded RNA comprises a sense portion that is complementary to a portion of the antisense strand of the target gene, and an antisense portion that is complementary to the sense portion, so that the sense portion and antisense portion anneal, and the double stranded RNA folds back upon itself.

2. (Canceled)

3. (Currently Amended) The retroviral vector of Claim 1, wherein the polylinker region comprises a nucleotide sequence of ~~selected from the group consisting of:~~

~~(a) aattc gactggcacagcctccagg ttcaagaga cctggaggctgtgccagtc ttttt ggaa a (SEQ ID NO:1)~~

~~(b) aattc gctgggactcctttgcatg ttcaagaga catgcaaaggagtcccagc ttttt ggaa a (SEQ ID NO:2);~~

~~(c) gatcc gactggcacagcctccagg ttcaagaga cctggaggctgtgccagtc ttttt ggaa a (SEQ ID NO:3);~~

~~(d)~~ gatcc gctgggactcctttgcatg ttcaagaga catgcaaaggagtcccagc ttttt ggaa a (SEQ ID NO:4)

~~(e) aattc gactccagtggtaatctac ttcaagaga gtagattaccactggagtc ttttt ggaa a (SEQ ID NO:5); and~~

~~(f) gatcc gactccagtggtaatctac ttcaagaga gtagattacccactggagtc ttttt ggaa a (SEQ ID NO:6).~~

4. (Previously Presented) The retroviral vector of Claim 1, wherein the sense and antisense regions of the target gene specific insert each comprise a length of 19-30 nucleotides.

5. (Previously Presented) The retroviral vector of Claim 4, wherein the sense and antisense regions of the target gene specific insert each comprise a length of 19-25 nucleotides.

6. (Previously Presented) The retroviral vector of Claim 5, wherein the sense and antisense regions of the target gene specific insert each comprise a length of 19-23 nucleotides.

7. (Canceled)

8. (Canceled)

9. (Previously Presented) The retroviral vector of Claim 1, wherein the retroviral vector is a modified Lentivirus in which:

(a) the endogenous CMV promoter of the Lentivirus has been removed; and

(b) a REV element that binds to a REV response element (RRE) is inserted.

10. (Previously Presented) A cell infected with the retroviral vector of Claim 1, wherein said cell has said target gene in its genome.

11. (Currently Amended) A modified Lentivirus vector for carrying double stranded RNA into a cell in order to modify the expression of a target gene having a sense strand and an antisense strand, wherein:

(a) the endogenous CMV promoter of the Lentivirus has been removed, said modified Lentivirus vector comprising:

(i) a REV element that binds to a REV response element (RRE) is inserted;

(ii) a U6 promoter sequence of

ttcccatgattccttcatatttgcatatacgatacaaggctgttagagagataattagaattaatttgactgtaaacacaaagatattagtacaaaatacgtgacgta gaaagtaataatttcttgggtagtttgcagtttttaaaattatgtttaaaatggactatcatatgcttaccgtaacttgaaagtatttcgatttcttgcctttatatatcttg tggaaaggacgaaacaccg (SEQ ID NO:7); and

(iii) a polylinker region;

wherein said double stranded RNA comprises a sense portion that is complementary to a portion of the antisense strand of the target gene, and an antisense portion that is complementary to the sense portion so that the sense portion and antisense portion anneal, and the double stranded RNA folds back upon itself.

12. (Currently Amended) The modified Lentivirus vector of Claim 11, wherein said polylinker region comprises a nucleotide sequence of ~~is selected from the group consisting of:~~

~~(a) aattc gactggccacagcctccagg ttcaagaga cctggaggctgtgccagtc ttttt ggaa a (SEQ ID NO:1)~~

~~(b) aattc gctgggactcctttgcatg ttcaagaga catgcaaaggagtcccagc ttttt ggaa a (SEQ ID NO:2);~~

~~(c) gatcc gactggccacagcctccagg ttcaagaga cctggaggctgtgccagtc ttttt ggaa a (SEQ ID NO:3);~~

(d) gatcc gctgggactcctttgcatg ttcaagaga catgcaaaggagtcccagc ttttt ggaa a (SEQ ID NO:4)

~~(e) aattc gactccagtggtaatctac ttcaagaga gtagattaccactggagtc ttttt ggaa a (SEQ ID NO:5); and~~

~~(f) gatcc gactccagtggtaatctac ttcaagaga gtagattaccactggagtc ttttt ggaa a (SEQ ID NO:6).~~

13. (Previously Presented) The modified Lentivirus vector of Claim 12, further comprising a reporter gene.

14. (Currently Amended) The modified Lentivirus vector of Claim 13, wherein said reporter gene is ~~selected from the group consisting of~~ Blasti ~~and hrGFP~~.

15. (Currently Amended) The modified Lentivirus vector of Claim 14 wherein said modified Lentivirus vector is pLenti-U6-Blasti, which comprises the nucleotide sequence of SEQ ID NO:8 ~~selected from the group consisting of:~~

~~(a) pLenti-U6-Blasti, which comprises the nucleotide sequence of SEQ ID NO:8; and~~

~~(b) pLenti-U6-hrGFP, which comprises the nucleotide sequence of SEQ ID NO:9~~.

16-22. (Canceled)

23. (New) A retroviral vector for carrying a target gene specific insert into a cell in order to modify the expression of a target gene having a sense strand and an antisense strand, comprising:

(a) a U6 promoter having a sequence of:

ttcccatgattccttcatatttgcatatacgatacaaggctgttagagagataattagaattaatttgactgtaaacacaaagatattagtacaaaatac gtgacgtagaaagtaataatttcttgggtagtttgcagtttttaaaattatgttttaaaatggactatcatatgcttaccgtaacttgaaagt atttcgatttcttgcctttatatatcttgtggaaaggacgaaacaccg (SEQ ID NO:7);

(b) a polylinker region comprising a nucleotide sequence of gatcc gctgggactcctttgcatg ttcaagaga catgcaaaggagtcccagc ttttt ggaa a (SEQ ID NO:4)

(c) a target gene specific insert comprising double stranded RNA, wherein said double stranded RNA comprises a sense portion that is complementary to a portion of the antisense strand of the target gene, and an antisense portion that is complementary to the sense portion, so that the sense portion and antisense portion anneal, and the double stranded RNA folds back upon itself.

24. (New) The retroviral vector of Claim 23, wherein the sense and antisense regions of the target gene specific insert each comprise a length of 19-30 nucleotides.

25. (New) The retroviral vector of Claim 24, wherein the sense and antisense regions of the target gene specific insert each comprise a length of 19-25 nucleotides.

26. (New) The retroviral vector of Claim 25, wherein the sense and antisense regions of the target gene specific insert each comprise a length of 19-23 nucleotides.

27. (New) A modified Lentivirus vector for carrying double stranded RNA into a cell in order to modify the expression of a target gene having a sense strand and an antisense strand, wherein:

(a) the endogenous CMV promoter of the Lentivirus has been removed, said modified Lentivirus vector comprising:

(i) a REV element that binds to a REV response element (RRE) is inserted;

(ii) a U6 promoter sequence of

ttcccatgattccttcatatttgcatatacgatacaaggctgttagagagataattagaattaatttgactgtaaacacaaagatattagtacaaaatacgtgacgta gaaagtaataatttcttgggtagtttgcagtttttaaaattatgttttaaaatggactatcatatgcttaccgtaacttgaaagtatttcgatttcttgcctttatatatcttg tggaaaggacgaaacaccg (SEQ ID NO:7); and

(b) a polylinker region comprising a nucleotide sequence of: gatcc gctgggactcctttgcatg ttcaagaga catgcaaaggagtcccagc ttttt ggaa a (SEQ ID NO:4);

wherein said double stranded RNA comprises a sense portion that is complementary to a portion of the antisense strand of the target gene, and an antisense portion that is complementary to the sense portion so that the sense portion and antisense portion anneal, and the double stranded RNA folds back upon itself.

28. (New) The modified Lentivirus vector of Claim 27, further comprising a reporter gene.

29. (New) The modified Lentivirus vector of Claim 27, wherein said reporter gene is selected from the group consisting of Blasti and hrGFP.

30. (New) The modified Lentivirus vector of Claim 29, wherein said vector is pLenti-U6-Blasti, which comprises the nucleotide sequence of SEQ ID NO:8.

31. (New) A modified lentivirus pLenti-U6-Blasti, comprising the nucleotide sequence of SEQ ID NO:8.

32. (New) A cell transformed or transfected with the modified lentivirus of Claim 31.